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(54) **TEMPLATE SWITCH-BASED METHODS FOR PRODUCING A PRODUCT NUCLEIC ACID**

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See application file for complete search history.

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(57) **ABSTRACT**

Provided are methods of producing a product nucleic acid. The methods include combining a template deoxyribonucleic acid (DNA), a polymerase, a template switch oligonucleotide, and dNTPs into a reaction mixture. The components are combined into the reaction mixture under conditions sufficient to produce a product nucleic acid that includes the template DNA and the template switch oligonucleotide each hybridized to adjacent regions of a single product nucleic acid that includes a region polymerized from the dNTPs by the polymerase. Aspects of the invention further include compositions and kits.

15 Claims, 1 Drawing Sheet